TABLE 1.—*Solar radiation intensities during March, 1923.*

[Gram-calories per minute per square centimeter of normal surface.]

Washington, D. C.

Date.	Sun's zenith distance. 8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th meridian time.	Air mass. A. M.					P. M.				Local mean solar time.
	e.	5.0	4.0	3.0	2.0	[1] 1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
March 2	3.45			0.93	1.18	1.44					3.99
3	4.75				1.01	1.28	0.89				6.02
7	3.99			0.89	1.00						3.45
8	2.74			0.71	1.09	1.43	1.07	0.89			1.96
9	2.87			0.48	0.80	1.32	1.14	1.00	0.82	0.69	2.16
12	6.27						1.07	0.90	0.72	0.58	6.76
14	4.75	0.57									3.45
17	2.74				1.13	1.41	1.09	0.84	0.74	0.67	2.62
20	1.19		0.93	1.07	1.21	1.48	1.19	0.98	0.86		1.45
21	3.63		0.73	1.02	1.21	1.44	1.26	1.04			3.63
24	3.30	0.62	0.79	0.97	1.13	1.47	1.05				2.49
26	5.16	0.54	0.66	0.79	0.98						4.57
27	4.17		0.38	0.52	0.75	1.21	1.04	0.90	0.75	0.66	4.75
29	0.91				1.23	1.50	1.13	0.90	0.69	0.60	1.52
30	3.00				1.02						3.99
31	0.91	0.98	1.06	1.21	1.34	1.52					1.45
Means		0.68	0.76	0.85	1.08	1.41	1.09	0.93	0.76	0.64	
Departures		−0.03	−0.06	−0.10	−0.07	−0.01	−0.03	±0.00	−0.03	−0.04	

[1] Extrapolated.

Madison, Wis.

March 1	3.15						1.24				4.17
2	4.37		0.87	1.03	1.03						6.27
10	2.26		1.09	1.21	1.35	1.52	1.33	1.19			3.15
14	1.00		1.04	1.19	1.37	1.58					2.16
16	1.19		1.14	1.27	1.41	1.58	1.38	1.20			1.24
19	0.51			1.28	1.43						0.79
23	1.96			1.03	1.24						2.36
24	1.19		1.11	1.22	1.34	1.46					1.24
26	1.12		1.09	1.21	1.27						1.24
27	2.87				1.38	1.60	1.36				1.60
28	0.64		1.06	1.23	1.36	1.52					0.71
30	1.32		0.92		1.29						1.24
31	0.86		1.07	1.21	1.38	1.57					1.19
Means			1.04	1.19	1.32		1.31	(1.20)			
Departures			±0.00	±0.00	±0.00		−0.01	+0.04			

TABLE 1.—*Solar radiation intensities during March, 1923*—Continued.

Lincoln, Nebr.

Date.	Sun's zenith distance. 8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th meridian time.	Air mass. A. M.					P. M.				Local mean solar time.
	e.	5.0	4.0	3.0	2.0	[1] 1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
March 6	3.30		1.11	1.22	1.38						3.30
8	3.45	0.80									5.36
9	4.57			1.10	1.30	1.56					3.45
10	3.30						1.25	1.12	0.93	0.84	3.00
16	1.19		0.63	0.99	1.29		1.24	1.09	0.93	0.79	2.16
17	3.15		0.86	1.05	1.22	1.41					3.81
19	0.81		1.09	1.22	1.38						1.96
20	3.30	0.71	0.82	0.95							4.17
23	3.15		0.90		1.28						4.17
24	3.81	0.87	1.01	1.17	1.36	1.57					3.81
26	2.49						1.43	1.07	0.88	0.73	3.15
28	2.49		0.95	0.98	1.23	1.55					2.74
29	4.17				1.14	1.62					4.57
Means		0.79	0.92	1.08	1.29		1.30	1.08	0.91	0.78	
Departures		−0.07	−0.01	±0.00	±0.00		+0.03	±0.00	−0.01	±0.00	

TABLE 2.—*Solar and sky radiation received on a horizontal surface.*

Week beginning.	Average daily radiation. Washington.	Madison.	Lincoln.	Average daily departure for the week. Washington.	Madison.	Lincoln.	Excess or deficiency since first of year. Washington.	Madison.	Lincoln.
	cal.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*
Feb. 26	205	233	362	−82	−51	+14	−2,580	−1,350	−187
Mar. 5	229	297	371	−81	−12	−2	−3,144	−1,437	−203
12	291	300	320	−46	−31	−80	−3,463	−1,651	−784
19	379	377	432	+23	+31	+15	−3,303	−1,438	−661
26	467	514	584	+93	+150	+158	−2,649	−389	+444

WEATHER OF NORTH AMERICA AND ADJACENT OCEANS.

NORTH ATLANTIC OCEAN.

By F. A. YOUNG.

The average pressure for the month was considerably below the normal at St. Johns, Newfoundland, while at land stations on the American coast, south of Nantucket, small positive departures were the rule, the same conditions holding true at stations on the south coasts of the British Isles. The pressure at Bermuda was considerably above the normal, while at the Azores it was below. The atmospheric conditions over the area between these two localities was rather abnormal during a portion of the month, when the steep gradient was responsible for turbulent weather, which in some cases was accompanied by comparatively high barometric readings. Lerwick, Shetland Islands, was within the limits of an area of high pressure that remained over northwestern Europe from the 14th to 21st, and the high pressure at that station during this period, was responsible for an unusually large positive departure from the normal for the month.

The number of days on which fog was reported was apparently slightly below the normal over the Grand Banks, while it was somewhat above along the American coast, between Hatteras and Canada. Fog was observed on from 2 to 4 days in the Gulf of Mexico, the maximum occurring in the 5-degree square between latitudes 25° and 30° N. and longitudes 90° and 95° W. The middle section of the steamer lanes was, as usual, comparatively free from fog, and it was also rare in the vicinity of the British Isles, although somewhat above the normal in the region between the 15th meridian and the French coast.

The unusually severe weather that has prevailed over the North Atlantic since September, continued in full force during March, although, taking the ocean as a whole, there was a decrease in the number of days with winds of gale force, as compared with February, although they were above the normal for March. The severest weather occurred in the region between the 40th and 45th parallels and 40th and 60th meridians, where gales were reported on from 7 to 10 days. Over that portion of the steamer lanes between the 20th and 40th meridians, the conditions were not far from normal, while the waters adjacent to the European coast were comparatively free from severe weather, due to the long period of anticyclonic conditions referred to above.

The month began with a disturbance off Hatteras, while at the same time the eastern part of the steamer

lanes was covered by an area of low pressure. Charts VIII to XI cover the period from the 2d to 5th inclusive. Storm logs follow:

American S. S. *West Modus*:

Gale began on the 1st, wind SW., 7. Lowest barometer 29.64 inches at 6 p. m. on the 1st, wind, variable, in latitude 28° 40′ N., longitude 65° 19′ W. End on the 2d, wind N. Highest force of wind 9, NW.; shifts SW.–NW.–NNW.

Norwegian S. S. *Niels Nielsen:*

Gale began on the 2d, wind N. Lowest barometer 28.84 inches at 4 a. m. on the 2d, wind N. 20° E., in latitude 42° 24′ N., longitude 55° 03′ W. End on the 3d, wind N., 24° W. Highest force of wind 10; shifts E.–NNW.

American S. S. *City of Freeport:*

Gale began on the 1st, wind SE. Lowest barometer 28.44 inches at 10 p. m. on the 1st, wind NE., 4, in latitude 54° 55′ N., longitude 12° W. End on the 1st, wind NW., 4. Highest force of wind 9, ENE.; shifts NE.–NW.

Danish S. S. *Frederik VIII:*

Gale began on the 5th, wind S. Lowest barometer 28.84 inches at 10 a. m. on the 5th, wind SW. 10, in latitude 51° 30′ N., longitude 31° 05′ W. End on the 6th, wind NW. Highest force of wind 10; shifts S.–SW.

At Greenwich mean noon on the 6th moderate easterly winds prevailed along the American coast from Hatteras to New York that later in the day increased to gale force, as shown by the following storm log.

American S. S. *El Cid:*

Gale began on the 6th, wind E. Lowest barometer 29.04 inches at 8 a. m. on the 6th, wind E, 8, in latitude 40° N., longitude 73° 45′ W. End on the 7th, wind NE. Highest force of wind 10, NE.; shifts not given.

On the 7th the center of this disturbance was near Nantucket, the area between the 30th and 40th parallels, west of the 65th meridian, being swept by moderate to strong westerly to northerly gales. Storm logs:

American S. S. *El Estero:*

At 7 p. m. on the 6th in latitude 30° 25′ N., longitude 79° 38′ W., barometer 29.82 inches, wind SW., 4, weather clear. At 10 p. m. wind had increased to moderate gale from SW. At midnight wind shifted to WNW. 8, squally with rain. 3 a. m. on the 7th ceased raining, wind backing W. 7, weather fine and partly cloudy. Lowest barometer 29.64 inches at 5 a. m. March 7, wind W. 7; in latitude 32° 23′ N., longitude 77° 28′ W.

British S. S. *Araguaya:*

Gale began on the 7th, wind SW. 7. Lowest barometer 29.22 inches at 9 a. m. on the 7th, wind SSW., 11, in latitude 36° 14′ N., longitude 68° 46′ W. End on the 8th, wind WNW. Highest force of wind 11, SW.; shifts SSW.–WSW.

British S. S. *Chickahominy:*

Gale began on the 7th, wind S. Lowest barometer 28.35 inches at 1:30 p. m. on the 7th, wind W., in latitude 42° 24′ N., longitude 66° 30′ W. End on the 8th, wind WNW. Highest force of wind 11; shifts S.–SW.–W.–WNW.

On the 7th there was also an atmospheric depression in midocean, which was of comparatively slight intensity, as the following was the only storm report received from vessels in the vicinity.

American S. S. *Nobles:*

Gale began on the 6th, wind SSW. Lowest barometer 29.67 inches on the 7th, wind SSW., in latitude 43° 15′ N., longitude 30° 55′ W. End on the 7th, wind N. Highest force of wind 9; shifts SSW.–NNW.

On the 8th the western disturbance was central off the west coast of Newfoundland and heavy weather prevailed over the greater part of the region between the 35th and 50th parallels and 35th and 65th meridians. This LOW evidently moved rapidly northeastward, as by the 9th moderate weather was the rule over practically the entire ocean. Storm logs:

British S. S. *Bolivian:*

Gale began on the 7th, wind SW. Lowest barometer 29.00 inches at 4 p. m. on the 7th, wind WSW. 10, in latitude 41° 40′ N., longitude 62° 25′ W. End on the 8th, wind W. Highest force of wind 10; shifts SW.–WSW.–W.–WNW.–W.

British S. S. *Rathlin Head:*

Gale began on the 7th, wind S. Lowest barometer 29.24 inches at 11 p. m. on the 7th, wind SW. 9, in latitude 42° N., longitude 57° 01′ W. End on the 8th, wind WNW. Highest force of wind 10, W.; shifts SW.–W.–WNW.

American S. S. *Texan:*

Gale began on the 8th, wind S. Lowest barometer 29.75 inches at 8 p. m. on the 8th, wind S., 8, in latitude 44° 28′ N., longitude 38° 54′ W. End on the 8th, wind WNW. Highest force of wind 9, S.; shifts S.–WNW.

On the 10th there was a moderate disturbance in midocean that moved rapidly eastward, and on the 12th was central off the coast of Ireland. On the 12th moderate to strong gales were reported from the region between the 40th and 45th parallels and the 35th and 55th meridians. Storm logs:

Dutch S. S. *Amsterdam:*

Gale began on the 10th, wind SW. Lowest barometer 29.60 inches at 3 a. m. on the 10th, wind variable, in latitude 45° 53′ N., longitude 31° W. End on the 12th, wind WNW. Highest force of wind 9; shifts SW.–WNW.

British S. S. *Harperly:*

Gale began on the 11th, wind W. Lowest barometer 29.83 inches at 9 a. m. on the 11th, wind W., 9; in latitude 42° 46′ N., longitude 34° 48′ W. End on the 17th, wind W. Highest force of wind 12; shifts W.–NW.–W.

Danish S. S. *United States:*

Gale began on the 11th, wind W. Lowest barometer 29.68 inches at noon on the 11th, wind W., 10; in latitude 41° 10′ N., longitude 51° 40′ W. End on the 12th, wind NW. Highest force of wind 10, W.; shifts W.–WNW.

British S. S. *Winifredian:*

Gale began on the 11th, wind SW. Lowest barometer 29.34 inches at 6 p. m. on the 11th, wind WSW., in latitude 49° 10′ N., longitude 24° W. End on the 12th, wind NW. Highest force of wind 10; shifts WSW.–W.–WNW.

From the 13th to the 15th a number of vessels in widely scattered locations reported winds of gale force. Storm logs:

American S. S. *Carlton:*

Gale began on the 13th, wind SW. Lowest barometer 30.20 inches at 4 a. m. on the 13th, wind SW., 8, in latitude 38° 08′ N., longitude 56° 15′ W. End on the 21st, wind NE. Highest force of wind 10; shifts SW.–NW.–N.–NE.

British S. S. *Carmania:*

Gale began on the 13th, wind SW. Lowest barometer 29.55 inches at midnight on the 14th, wind SW., in latitude 44° 10′ N., longitude 41° 10′ W. End on the 15th, wind W. Highest force of wind 8; shifts SW.–W.

On the 16th there was a LOW central near latitude 47°, longitude 27°, and at the same time an area of high pressure with its crest near Sable Island, Nova Scotia. While at the time of the Greenwich mean noon observation, moderate winds were reported in the vicinity of the LOW, the region between the 34th and 45th parallels and the 40th and 50th meridians was swept by strong northerly gales accompanied by rain and snow, with barometric readings from 29.85 to 30.30 inches. On the 15th and 16th strong "northers" prevailed in the western part of the Gulf of Mexico. On the 17th the conditions

were similar to those of the previous day, except that the storm area had extended somewhat, as gales with continued high barometric readings were reported by numerous vessels between the 30th and 70th meridians. The HIGH was now central near latitude 40°, longitude 50°, with an area of moderate winds extending about 5 degrees in each direction from the center. By the 17th the "norther" in the Gulf of Mexico had subsided and moderate weather prevailed in these waters. Storm logs:

American S. S. *Independence Hall:*

Gale began on the 16th, wind SW. Lowest barometer 30.10 inches at 2 a. m. on the 16th, wind N., 7, in latitude 37° 30′ N., longitude 44° W. End on the 16th, wind NNW. Highest force of wind 10; shifts N.–NNW.

Dutch S. S. *Moerdijk:*

Gale began on the 15th, wind WNW. Lowest barometer 29.97 inches at midnight on the 15th, wind WNW., 7, in latitude 34° 50′ N., longitude 38° 46′ W. End on the 17th, wind N. Highest force of wind 9, NNW.; shifts NNW.–N.

American S. S. *Alabama:*

At 8 a. m. on the 16th, in latitude 22° 30′ N., longitude 94° 05′ W., barometer 30.03 inches, wind SW., 3.

8.30 a. m. wind shifted to NW., came out with heavy rain squalls, barometer 30.02 inches, wind force, 8.

10 a. m. whole gale, force 10, barometer 30.02 inches.

10 p. m. wind and sea moderating, sky overcast.

Japanese S. S. *Texas Maru:*

Gale began on the 16th, wind S. Lowest barometer 30.05 inches at 10 a. m. on the 17th, wind SW., 9, in latitude 37° 11′ N., longitude 68° 40′ W. End on the 17th, wind N. Highest force of wind 9; shifts S.–SW.

British S. S. *Celtic:*

Gale began on the 14th, wind SSE. Lowest barometer 29.49 inches at 4 a. m. on the 15th, wind WSW., 8, in latitude 44° 41′ N., longitude 39° 55′ W. End on the 16th, wind NW. Highest force of wind 8, NW.; shifts S.–WNW.–NW.

Dutch S. S. *Mijdrecht:*

Gale began on the 16th, wind W. Lowest barometer 29.80 inches at 3 a. m. on the 17th, wind NW., 8, in latitude 33° 30′ N., longitude 34° W. End on the 18th, wind N. Highest force of wind 10; steady NW.

On the 18th, moderate gales were reported by a few vessels in the region between the Azores and Bermudas, while the remainder of the ocean was practically free from heavy winds. On the 19th moderate weather was the rule over the entire ocean except that a second "norther" appeared in the Gulf of Mexico, as shown by the following storm log.

American S. S. *Oswego:*

Gale began on the 18th, wind N. Lowest barometer 29.91 inches at 4 p. m. on the 18th, wind NNW., 4, in latitude 25° 45′ N., longitude 96° W. End on the 19th, wind NNE. Highest force of wind 9, N.; shifts NNW.–N.

On the 20th another disturbance appeared in the vicinity of Newfoundland and westerly gales again swept over the region north of the 35th parallel, west of the 50th meridian. This LOW moved rapidly eastward and on the 21st was near latitude 52° N., longitude 35° W. On that date the storm area extended between the 40th and 52d parallels and the 30th and 45th meridians. It apparently remained nearly stationary, contracting in area from day to day, and by the 24th had practically disappeared. Storm logs:

American S. S. *Antinous:*

Gale began on the 19th, wind SW. Lowest barometer 29.90 inches at 11 a. m. on the 19th, wind SW., 7, in latitude 34° 31′ N., longitude 74° 02′ W. End on the 20th, wind N. Highest force of wind 9, NW.; shifts SW.–NW.

British S. S. *Lapland:*

Gale began on the 20th, wind SW. Lowest barometer 29.32 inches at 1 p. m. on the 20th, wind SW., in latitude 41° 19′ N., longitude 53° 28′ W. End on the 21st, wind NW. Highest force of wind, 9 SW. to W.; shifts SW.–W. after heavy rain squalls.

American S. S. *President Fillmore:*

Gale began on the 21st, wind SW. Lowest barometer 29.12 inches at 4 a. m. on the 21st, wind SW., in latitude 44° N., longitude 40° W. End on the 22d, wind NW. Highest force of wind 9; shifts SW.–NW.

On the 25th there was still another disturbance central near St. Johns, Newfoundland, with a limited storm area between the 40th and 45th parallels and the 43d and 56th meridians. This LOW traveled slowly eastward, spreading out as it moved, and on the 26th, 27th, and 28th gales were prevalent over the middle and eastern sections of the ocean. Storm logs:

American S. S. *West Inskip:*

Gale began on the 24th, wind SW. Lowest barometer 29.46 inches at 4 p. m. on the 25th, wind SW. 8, in latitude 40° 56′ N., longitude 56° 33′ W. End on the 25th, wind NW. Highest force of wind 10; shifts SW.–NW.

British S. S. *Norfolk Range:*

Gale began on the 26th, wind NNW., 7. Lowest barometer 29.74 inches at 3 a. m. on the 27th, wind SSW., 8, in latitude 43°13′ N., longitude 44° 42′ W. End on the 27th, wind NW., 6. Highest force of wind 9; shifts SSW.–SW.

British S. S. *Verbania:*

Gale began on the 26th, wind WSW. Lowest barometer 29.03 inches at 4 a. m. on the 26th, wind W., in latitude 47° 24′ N., longitude 29° 10′ W. End on the 28th, wind W. Highest force of wind 12, SW.; shifts WSW.–NW.

Danish S. S. *Frederik VIII:*

Gale began on the 26th, wind SE. Lowest barometer 28.64 inches at 3 a. m. on the 27th, wind WSW., 10, in latitude 53° 28′ N, longitude 27° 39′ W. End on the 28th, wind W. Highest force of wind 10; shifts SSW.–SW.

British S. S. *Saxoleine:*

Gale began on the 26th, wind SW. Lowest barometer 28.74 inches at noon on the 27th, wind SW., 9, in latitude 56° 28′ N., longitude 25° 12′ W. End on the 29th, wind WNW. Highest force of wind 9, SW.; shifts SSE.–SW.–WNW.

On the 27th, the NE. trades were strongly developed south of Jamaica, as shown by following storm log.

American S. S. *American:*

Gale began on the 26th, wind NE., 7. Lowest barometer 29.83 inches at 7 a. m. on the 27th, wind NE., 7, in latitude 13° 10′ N., longitude 77° 59′ W. End on the 27th, wind NE. Highest force of wind 7, NE.; steady NE.

From the 29th until the end of the month heavy weather was prevalent over the greater part of the ocean, and on the former date gales accompanied by hail and snow occurred north of the 36th parallel, between the 40th and 70th meridians. On the 30th and 31st storm reports were received from vessels in widely scattered localities. Storm logs:

British S. S. *Canadian Leader:*

Gale began on the 28th, wind W. Lowest barometer 29.41 inches at 4:30 p. m. on the 28th, wind W., in latitude 42° 50′ N., longitude 63° W. End on the 29th, wind W. Highest force of wind 10, W.; steady W.

British S. S. *Maine:*

Gale began on the 28th wind S. Lowest barometer 29.58 inches at 8:30 a. m. on the 28th, wind W., in latitude 41° 10′ N., longitude 57° 12′ W. End on the 30th, wind NW. Highest force of wind 11; shifts WSW.–WNW.

British S. S. *Rapidan:*

Gale began on the 29th, wind NW. Lowest barometer 29.65 inches at noon on the 29th, wind WNW., 4, in latitude 40° 56′ N., longitude 47° 07′ W. End on the 30th, wind WNW. Highest force of wind 9; steady WNW.

Danish S. S. *Frederik VIII:*

Gale began on the 29th, wind S. Lowest barometer 29.43 inches at 8 p. m. on the 29th, wind SSE., in latitude 46° N., longitude 38° 21′ W. End on the 30th, wind W. Highest force of wind 11; shifts SSE.–SSW.

Italian S. S. *Georgia:*

Gale began on the 30th, wind SSE. Lowest barometer 29.38 inches at 6.27 a. m. on the 31st, wind SSW., in latitude 36° 56′ N., longitude 65° 03′ W. End on the 31st, wind NNE. Highest force of wind 10; shifts SSW.–W.–NW.–N.

American S. S. *City of Freeport:*

Gale began on the 31st, wind SW. Lowest barometer 29.91 inches at 1 a. m. on April 1, wind SW., 8, in latitude 42° 10′ N., longitude 43° 12′ W. End on April 1, wind W. Highest force of wind 8, SW., shifts SW.–W.

NORTH PACIFIC OCEAN.

By WILLIS E. HURD.

A considerable amount of cloudy, stormy weather occurred over the North Pacific during March; and among the important disturbances of the month was the typhoon which passed near Guam during the last decade. Over the northern and middle routes the seas were frequently heavy to very rough, and several vessels reported delayed progress in the face of mountainous waves. Wind velocities, however, were not unusually high, and few gales of greater force than 10 were reported.

At Honolulu the weather was unusually windy, with prevailing wind from the east. The average hourly velocity was 9.7 miles. The highest velocity, nevertheless, was only 40 miles, this occurring with an east wind on the 8th, but there were 7 days with velocities in excess of 24 miles. Cloudy skies prevailed and the total precipitation, 6.36 inches, was 3.16 inches above the normal.

It is interesting to note the precipitation conditions along the American coast from San Diego to Juneau. At the California coast stations the rainfall was much below the normal for the month, and at San Diego the percentage of sunshine was the highest ever recorded in March. To the northward of San Francisco precipitation increased, until at North Head it was slightly more than half the normal amount; while at Juneau it was more than double the normal. The total snowfall at Juneau was 39.7 inches, which is the greatest amount of the past 20 years in March, and more than three times the normal.

Of the storms that entered the ocean from the Asiatic continent, most of them seem to have sprung from Mongolia and Siberia. The winter high pressure area overlay eastern China and the adjacent seas during the greater part of the month, and so far as known the only cyclones or depressions of consequence to this region were the two which occurred on the 7th–8th, and on the 10th. Both of these moved northeastward over Japan.

Of the more northern cyclones proceeding from the continent, that of the 2d and 3d gave fresh to whole gales over the sea to the eastward of Japan, and was perhaps the most intense. The British S. S. *Bessie Dollar*, while in and near latitude 34° N., longitude 144° 29′ E., on the 3d, encountered southwesterly to northwesterly gales, force 10, lowest pressure 29.70 inches. On the same day the American S. S. *West Prospect*, while in latitude 34° 39′ N., longitude 146° 18′ E., experienced westerly to northwesterly gales, force 9, lowest pressure 29.65 inches. Several vessels also reported gales from the same locality on the 11th to 14th, accompanied by rain, hail, and tremendous seas, though with only moderately low pressures.

On the 16th to 20th several steamships encountered stormy weather between about latitudes 33° and 50° N., longitudes 160° and 177° E. Among them the American schooner *Bakersfield*, while westward bound in latitude 49° 36′ N., longitude 168° 15′ E., on the 18th, was beset by extraordinarily high seas, raised by a steady northeast gale, highest force 11; the lowest pressure was 29.84 inches. On the same date the Japanese S. S. *Iyo Maru* experienced a steady north-northwest gale, force 10, in latitude 44° 43′ N., longitude 163° 24′ E., and the American S. S. *West Kader* a steady northeast gale, highest force 10, lowest pressure 29.62 inches, in latitude 50° 12′ N., longitude 176° 15′ E. These gales were associated with a storm center in the Aleutian area.

On the 21st a rapidly moving disturbance was central near latitude 45° N., longitude 153° E. The *Bakersfield*, in the vicinity, reported a northeast gale, force 10, lowest pressure 29.48 inches.

On the 31st the lowest pressures of the month occurred, apparently owing to an intensification of a LOW over the western Aleutian area. The condition continued through the following day and into the 2d of April. The lowest observed pressure on the 31st was 28.66 inches, noted in latitude 45° 15′ N., longitude 173° 15′ E., by the American S. S. *Dewey;* but on April 1 the region was swept by storm and hurricane winds, and the low reading of 28.24 inches was observed.

One of the most important storms of the month was the typhoon that passed near Guam on the 25th and 26th. This seems to have appeared as a depression over the central portion of the Caroline Archipelago on the 21st or 22d. It moved eastward, slowly developing, and at 8 p. m. of the 25th (Eastern time) the center was south of Guam, as evidenced by the observation at that point: Wind east, force 9, pressure 29.08 inches. Twenty four hours later the wind at Guam was south, force 6, pressure 29.18 inches; and at 8 p. m. of the 27th, though the wind was light from the south, the pressure was still as low as 29.48 inches. The typhoon did considerable damage on the island. From the Marianas it apparently moved west-northwestward, recurving shortly afterward toward the north and passing to the eastward of the Bonin Islands. On the 29th the U. S. Transport *Meigs* received a radio report of a typhoon in the vicinity of Guam, and while in latitude 32° 47′ N., longitude 140° 23′ E., experienced falling pressure, wind shifting from southeast into east and northeast, and an increasing ocean swell. At 4 p. m. of the 30th, while near latitude 33° N., longitude 144° E., the *Meigs* experienced lowest pressure 29.53 inches, with a fresh northerly breeze and a northeast swell. It is not known whether the typhoon died out at this time or entered the area of disturbance then increasing in energy over the western Aleutians.

Over the eastern waters of the Pacific only one storm of consequence developed in lower latitudes. That seems to have formed near the Hawaiian Islands on the 26th. Honolulu on that date recorded the lowest pressure of the month, 29.76 inches, though without accompanying gale winds. On the 27th, however, this station recorded a maximum wind velocity of 35 miles from the northeast, and several vessels to the eastward were